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The West Pacific *Neobythites bimarginatus* (Ophidiidae) recorded from off Madagascar

by

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Résumé. – L’ophidié du Pacifique ouest, *Neobythites bimarginatus*, capturé au sud de Madagascar.

En 2010, un spécimen d’Ophidiidae du genre *Neobythites* a été récolté par 295 m de profondeur au cours de l’expédition française “Atimo Vatae” dans le sud de Madagascar. Ce spécimen appartient à une espèce différente des 12 autres espèces connues de la partie la plus occidentale de l’océan Indien. Néanmoins, cet individu correspond à la diagnose de *N. bimarginatus* Fourmanoir & Rivaton, 1979, l’une des 30 espèces de *Neobythites* connues de l’océan Indien oriental et du Pacifique ouest. *N. bimarginatus* possède un caractère unique : la coloration de ses nageoires dorsale et anale, dont les extrémités discales et proximales sont claires, alors que la partie médiane est noire. L’espèce est connue par 13 spécimens de Nouvelle-Calédonie et de quelques îles voisines, ce qui représente une distance de plus de 10 000 km de Madagascar. Des récoltes complémentaires sont nécessaires sur la partie supérieure de la pente continentale pour déterminer la distribution exacte et la structure de la population de *N. bimarginatus*.

Key words. – Ophidiidae - *Neobythites bimarginatus* - off Madagascar - Range extension - New record.

Neobythites is the largest known ophidiid genus with 52 valid species. It is commonly found on the lower part of the Continental Shelf and the upper part of the Continental Slope in the subtropical and tropical areas of all oceans, except for the East Atlantic Ocean. In 2010 a *Neobythites* specimen was caught off Madagascar. Twelve *Neobythites* species are known from the westernmost Indian Ocean (Nielsen, 1995), but the present specimen differs from them all, e.g., by the coloration of the dorsal and anal fins. Following the revision of the Indo-Pacific *Neobythites* species (Nielsen, 2002) it keys clearly out as *N. bimarginatus* Fourmanoir & Rivaton, 1979, known from New Caledonia and a few neighbouring islands.

MATERIAL

The 122 mm (SL) female (Fig. 1) was caught off southern Madagascar by the Atimo Vatae expedition: Atimo Vatae st. CP 3615, F/V Nossi Bé 11, 26°14’S, 45°09’E, 284–286 m, 14 May 2010 (Bouchet, pers. com.). The specimen is curated in the South African Institute for Aquatic Biodiversity, Grahamstown (SAIAB 189024).



Figure 1. - *Neobythites bimarginatus* Fourmanoir & Rivaton, 1979. SAIAB 189024, SL 122 mm. From off Madagascar (photo M. Krag, ZMUC).

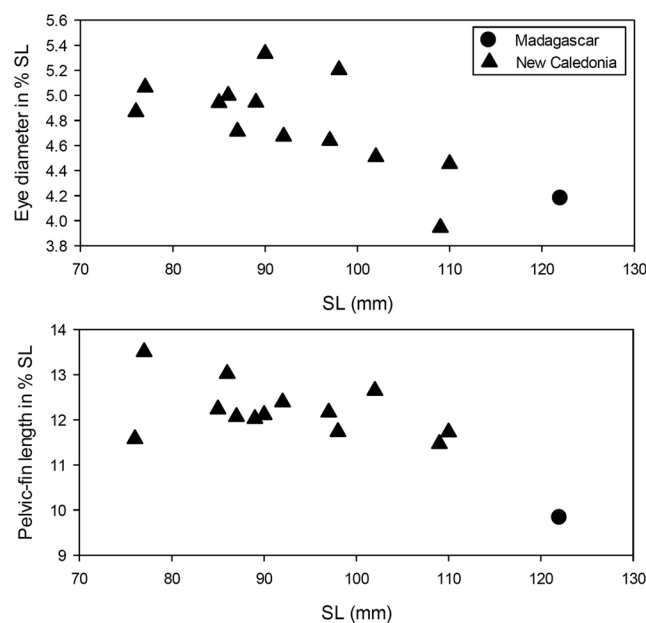


Figure 2. - *Neobythites bimarginatus*. Pelvic-fin length and horizontal eye diameter showing negative allometric growth.

RESULTS

Neobythites bimarginatus is characterized by the light distal and proximal parts of the dorsal and anal fins and a black middle part, by the lack of spines on the hind margin of the preopercle, by the high number of pectoral-fin rays (32–33), and by the lack of ocelli in the dorsal-fin. In table I, the Madagascar specimen is compared to 13 specimens of *N. bimarginatus*, including the holotype.

The table shows that the characters of the Madagascar specimen fall within the variation of the 13 specimens from New Caledonia except for a slight difference in the length of the pelvic-fin

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Table I. - Meristic and morphometric characters of *Neobythites bimarginatus*.

	Madagascar	New Caledonia			
	<i>n</i> = 1	Min	Mean	Max	<i>n</i>
Standard length (SL in mm)	122	76	92.2	110	13
Meristic characters					
Dorsal-fin rays	107	106	107.8	110	12
Caudal-fin rays	8	8	8.0	8	12
Anal-fin rays	87	86	87.5	90	13
Pectoral-fin rays	33	32	32.8	33	8
Pelvic-fin rays	2	2	2.0	2	13
Long rakers on anterior gill arch	8	7	7.9	9	13
Total gill rakers	14	13	14.3	16	13
Pseudobranch filaments	2	2	2.0	2	8
Precaudal vertebrae	13	13	13.9	14	13
Total vertebrae	60	59	60.5	62	13
Origin of dorsal- fin above vertebra no.	3	3	3.4	4	13
Anterior anal ray below dorsal ray no.	25	23	23.8	25	13
Anterior anal ray below vertebra no.	16	14	15.5	16	13
Morphometric characters in % SL					
Head length	19.0	19.0	20.1	21.0	13
Body depth at anal-fin origin	16.0	14.5	15.7	17.5	13
Upper jaw length	9.0	8.9	9.7	10.5	13
Horizontal eye window	4.2	3.9	4.8	5.3	13
Preanal length	41.0	37.0	39.9	43.5	12
Predorsal length	19.0	19.0	21.7	23.5	12
Length from base of pelvic to anal-fin origin	29.0	23.5	25.7	29.0	13
Pelvic-fin length	9.8	11.5	12.2	13.5	13
Gill filament length	1.2	1.0	1.1	1.3	12
Postorbital length	10.5	11.5	11.6	12.0	2
Otolith characters					
in % SL					
Otolith length	4.1	4.3	4.7	5.2	3
Otolith height	2.5	2.7	3.0	3.2	3
Sulcus length	3.2	2.9	3.6	4.2	3
Ostium length	2.0	1.9	2.1	2.4	3
Ostium height	0.7	0.6	0.7	0.8	3
in % Sulcus length					
Ostium length	62	56	60.3	64	3
Ostium height	21.0	19.0	20.1	21.0	3
in % Ostium length					
Ostium height	33.5	30.0	33.5	36.0	3

and in the horizontal diameter of the eye window. Otolith height and length also fall outside the range. However, as seen from figure 2 both characters show a negative allometric growth, which can explain the difference as the Madagascar specimen is the longest of the 14 specimens examined.

DISCUSSION

It does not seem possible that a specimen from the New Caledonian population can migrate 1/3 around the earth to Madagascar, so the large gap between the two areas of distribution rather indicates the presence of intermediate populations. Therefore, more fishing on the upper Continental Slope is necessary to obtain a correct picture of the distribution of *N. bimarginatus*.

The same is the case for other species of *Neobythites* occurring in two well-separated geographical areas: *N. steatiticus* Alcock, 1893 known from 11 specimens in Gulf of Oman and in the Bay of Bengal (Nielsen, 1995: 11); *N. meteori* Nielsen, 1995 known from two specimens, the holotype from of Sokotra Island, Gulf of Aden and a specimen from off Lombok Island, Indonesia (Nielsen, 2002: 57). Additional material might show that they represent two species.

N. monocellatus Nielsen, 1999 known from one specimen off Bahia, Brazil and from numerous specimens off French Guiana and further west.

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